(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 August 2006 (03.08.2006)

PCT

(10) International Publication Number
WO 2006/081532 A1

(51) International Patent Classification:
G01T 1/24 (2006.01) *B05D 3/06* (2006.01)

(21) International Application Number:
PCT/US2006/003152

(22) International Filing Date: 27 January 2006 (27.01.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/647,589 27 January 2005 (27.01.2005) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

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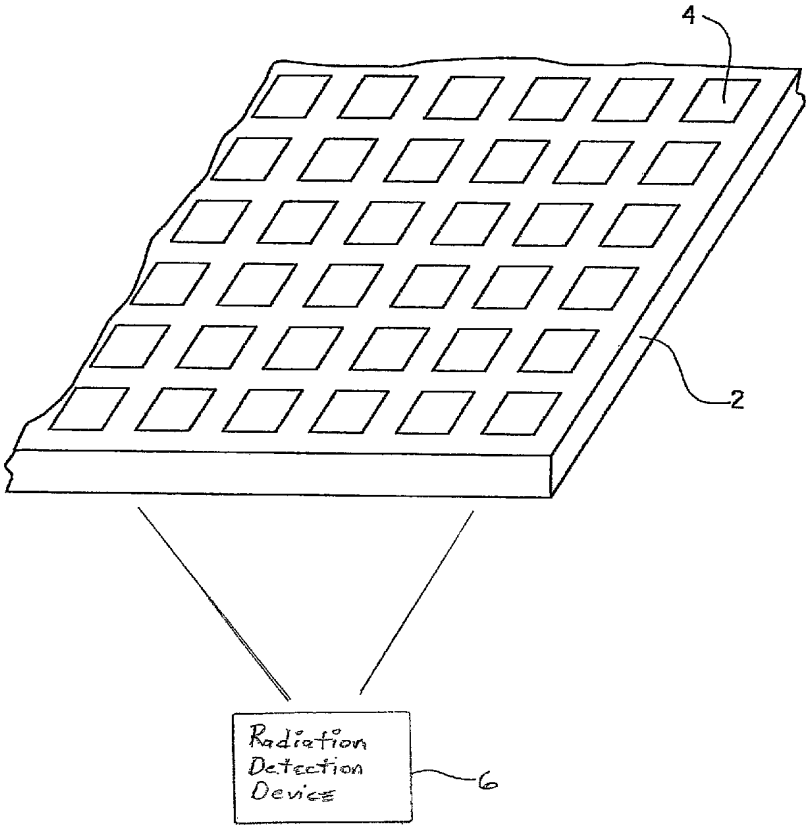
(54) Title: RADIATION DETECTOR CRYSTAL AND METHOD OF FORMATION THEREOF



(57) Abstract: A radiation detector crystal is made from CdxZn1 -xTe, where 0 ≤x ≤l; an element from column III or column VII of the periodic table, desirably in a concentration of about 1 to 10,000 atomic parts per billion; and the element Ruthenium (Ru), the element Osmium (Os) or the combination of Ru and Os, desirably in a concentration of about 1 to 10,000 atomic parts per billion using a conventional crystal growth method, such as, for example, the Bridgman method, the gradient freeze method, the electro-dynamic gradient freeze method, the so-call traveling heater method or by the vapor phase transport method. The crystal can be used as the radiation detecting element of a radiation detection device configured to detect and process, without limitation, X-ray and Gamma ray radiation events.

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FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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